BACKGROUND PAPER

PROPOSED REGULATION UNDER THE CLEAN ENVIRONMENT ACT DESIGNATING THE INTERLAKE REGION AS A SENSITIVE AREA FOR THE STORAGE AND HANDLING OF PETROLEUM PRODUCTS

The proposed regulation is intended to be the first of a series designed to phase in mandatory testing and upgrading of all petroleum storage facilities in Manitoba. The Interlake region was chosen as the first area to be designated because of its history of groundwater contamination incidents resulting from petroleum releases. Domestic water wells have been contaminated by petroleum products in at least thirteen communities in the area.

Water supplies in the Interlake are generally obtained from fractured limestone aquifers overlain with glacial till or from sand and gravel deposits near surface. Both types of aquifers are susceptible to contamination from petroleum spills or leaks at or near ground surface. For this reason the Water Resources Division of the Department of Natural Resources has identified the Interlake as a groundwater pollution hazard area.

REQUIREMENTS IN SENSITIVE AREAS

When an area is designated as Sensitive, the owner or operator of a storage tank system must test and upgrade the system within deadlines specified in the Sensitive Area regulation.

The testing requirement is intended to identify those systems which are presently leaking. These systems must then be emptied and repaired or removed in accordance with the regulatory requirements. Systems which are not leaking must be upgraded by one of the methods specified in the regulation.

In many instances, small service stations with older tankage will find it more economical to replace the tanks than to upgrade them.

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This is an acceptable alternative if the new tank installation meets current regulatory requirements. Upgrading of existing underground tanks by adding a cathodic protection system or internal tank linings is normally done at larger stations where the age and condition of the tanks is known.

Upgrading of above ground tanks involves the installation of an impermeable base and a containment dike. Normally, these features will be added as part of a complete overhaul of a bulk plant.

The costs of upgrading can vary greatly depending on the type of work that is required. Upgrading or replacement of underground tanks can cost from $10,000 to over $100,000. A simple containment dike can be constructed for $2,000 while a bulk plant rebuild may be in excess of $200,000.

ESTABLISHMENT OF INTERLAKE SENSITIVE AREA

The Interlake area includes 9 rural municipalities and 3 local government districts. According to the latest available figures, there are approximately 145 petroleum storage tank systems in this area. Of this total, 25% meet current standards and would not require upgrading.

In order to ensure an orderly implementation of the sensitive area requirements, the Interlake region has been divided into two zones. Zone 1 includes three rural municipalities and one local government district in which there have been at least one incident of petroleum contamination of groundwater which has affected a number of private wells. Predictably, this zone corresponds to the areas with the highest groundwater pollution hazard potential. In Zone 1, all testing must be done in 90 days and upgrading must be completed within two years. This zone contains 58 petroleum storage facilities.

Zone 2 takes in the 6 rural municipalities and two local government districts comprising the remainder of the Interlake. In this area, testing must be done within 12 months and all upgrading must be completed within five years. Zone 2 contains 87 petroleum storage facilities, 79% of which

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will have to be upgraded.

GENERAL COMMENTS

The procedures outlined in this paper are based on the requirements of Manitoba Regulation 156/80. Since the Sensitive Area designation regulation is being developed as a package with amendments to Manitoba Regulation 156/80, it is possible that the upgrading methods may be somewhat revised. For example, additional containment features may be required for above ground tanks.

It is quite likely that a number of marginal operations will be closed down because the costs of upgrading are prohibitive. Although all reasonable efforts are made to advise the storage tank system operator of the most economical methods of complying with the regulation, a facility will not be allowed to continue operation beyond the deadline if the necessary work has not been completed.

As was indicated at the beginning of this paper, this paper is the first in a series of sensitive area designations. At the present time, it is anticipated that the next area will be south-central Manitoba, taking in an area bounded approximately by Highways 3 and 13 on the east, Highway 10 on the west, Trans-Canada Highway on the north and the Canada/U.S. border on the south.